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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,450	10/30/2003	Brian Tracey	1062/D75	7964
73544	7590	10/22/2008		
Michelle Saquet Temple DEKA Research & Development Corporation 340 Commercial Street Manchester, NH 03101-1129			EXAMINER WEINSTEIN, LEONARD J	
			ART UNIT 3746	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/697,450

Applicant(s)

TRACEY ET AL.

Examiner

LEONARD J. WEINSTEIN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 August 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-84 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-84 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on August 1, 2008 has been entered.
2. The examiner acknowledges the amendments to claims 1, 21, 36, and 49. The examiner notes that claims 67-84 have been introduced.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
4. Claims 21-48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claims 21 and 36, the limitation of "***a plurality of cavities on a pumping side of the rigid block***, each cavity in fluid communication through the rigid block with one of the ports for delivering pneumatic air pressure directly to the port through the solvent bondable tubing connection; ***a rigid block having a plurality of cavities on a pumping side of the block*** in fluid communication with ports accessible from a port side of the block." It is unclear whether or not the "the rigid block" in the first recitation is the same element as "a rigid block" in the second recitation, likewise

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it is unclear if "the plurality of cavities" in the first recitation is separate and distinct of "a plurality of cavities" in the second recitation.

Further there is lack of antecedent basis for the recitation of "the block" (embolden above) which is of particular significance because the claim introduces the elements of "the rigid block," "a rigid block," and "the block" in that order in the claim. As best understood by the examiner each recitation is referring to the same rigid block corresponding to the very first recitation of "a rigid block" (different from above) in each of the independent claims.

As best understood by the examiner the applicant is referring to the same rigid block and the same plurality of cavities throughout the claim and limitations cited only mean to add the limitation that the plurality of **ports** are accessible from a port side of recitation cite above will be considered to be --- a plurality of cavities on a pumping side of the rigid block, each cavity in fluid communication through the rigid block with one of the ports for delivering pneumatic air pressure directly to the port through the solvent bondable tubing connection, wherein the plurality of cavities ~~on a pumping side of the rigid block in fluid communication with ports~~ are accessible from a the port side of the rigid block;" for clarity and the office action on the merits that follows.

5. Claims 78-84 recites the limitation "the bezel" in line 4. There is insufficient antecedent basis for this limitation in the claim.
6. Claims 60-64 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 60 depending from

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independent claim 49, the limitation of "further comprising ports, each in fluid communication with one of the cavities." It is unclear whether or not these are the same ports as the "plurality of ports" claimed in independent claim 49.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-5 and 67-70 are rejected under 35 U.S.C. 102(b) as being anticipated by Kamen et al. US 5,628,908. Kamen teaches all the limitations as claimed for a bezel or an assembly (76), as shown in figure 13, including: **[claims 1 and 67]** a rigid block 102 having a plurality of ports (ports connected 196 as shown in figure 14A) integrally molded on a port side (fig. 14A) of the rigid block 102, each port (ports connected to 196) providing a solvent bondable tubing connection to the bezel 76, and a plurality of cavities 120 on a pumping side (fig. 13) of the rigid block 102, each cavity in fluid communication through the rigid block 102 with one of the ports (ports connected to 196) for delivering pneumatic air pressure directly to the port (ports connected to 196) through the solvent bondable tubing connection (connection with 196 shown in figure 14A); **[claims 2 and 68]** ports (ports connected to element 196) are hollow tubular structures integral with the rigid block 102 and extending out from the port side of the rigid block 102, as shown in figure 14A; **[claims 3 and 69]** a port side (fig.

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14A) is opposite the pumping side; **[claims 4]** ports (ports connected to element 196) have inner diameters larger in size than the cavity 120 in fluid communication therewith (as shown with a comparison of figures 13 and 14A); **[claims 5 and 70]** a first depression (PA1) in the pumping side (fig. 13) of the rigid block 102, the first depression (PA1) having at least one of the cavities 120 therein.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

11. Claims 6-10, 16-20, and 71-74 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamen et al. US 5,628,908 in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901 as evidenced by Liotta US 2004/005421, and further in view of Gray US 6,382,923. Kamen teaches all the

limitations as claimed including: **[claims 6 and 71]** an insert 117 extending up from the first depression (PA1) to form an elevated surface (surface of element 117 facing same direction as element 102 as shown in figure 13) above the pumping side (fig. 13) of the rigid block 102, the insert 117 allowing pneumatic pressure applied through the at least one cavity 120 in the first depression (PA1) to be applied over the elevated surface (surface of element 117 facing same direction as element 102 as shown in figure 13); **[claims 8 and 73]** a first depression (PA1) includes a chamber wall (surface of 102 that defines PA1) from which an insert 117 extends such that removal of the insert 117 leaves an open chamber defined by the chamber wall (surface of 102 which defined PA1); **[claims 10 and 74]** an open chamber formed by a second depression (PA2) in the pumping side of the rigid block 102; **[claim 17]** wherein the ports (ports connected to element 196) are hollow tubular structures integral with the rigid block 102 and extending out from the port side (fig. 14A) of the block 102; **[claim 18]** wherein the port side (fig. 14A) is opposite the pumping side (fig. 13); **[claims 19]** and wherein the ports (ports connected 196) have inner diameters larger in size than the cavity 120 in fluid communication therewith; **[claim 20]** and a means 124 for coupling an insert 117 in the depression (PA1), the insert 117 including surface extending up from the first depression (PA1) to form an elevated surface above the pumping side (fig. 13) of the rigid block 102, the insert 117 allowing pneumatic pressure applied through the at least one cavity 120 in the first depression (PA1) to be applied over the surface (surface of element 117 facing same direction as element 102 as shown in figure 13).

Kamen also teaches an insert 117 disposed between a block 102 and a gasket 124 forming a diaphragm, and as shown in figure 12. Kamen fails to teach the following limitations that are taught by Bräuer for a pumping assembly including a diaphragm 4 separated from a pressure source 2 by and insert including ribs 7, corresponding to the location where insert 117 of Bräuer is located. Therefore Bräuer teaches all the limitations for an assembly for use in delivery of pneumatic pressure including: **[claims 6 and 71]** ribs, as formed by intermediate cross-sections of the body formed by element 7 between the channels shown in figure 1, extending up from a first depression, surface opposite element 7 defining element 2, to form a surface (surface of 7 facing element 4) above the pumping side of a rigid block, block accommodating element 1, the ribs (as formed by 7 as discussed above) allowing pneumatic pressure applied through the at least one cavity (bore formed around element 1) in the block accommodating element 1 in which the bore is formed, in the first depression, (surface opposite element 7 defining element 2) to be applied over the surface (surface of element 7 facing element 4); **[claims 7 and 72]** ribs (formed by 7) form a symmetrical grid of air passages; **[claims 8]** a first depression (surface opposite element 7 defining space of element 2) includes a chamber wall (actual surface opposite element 7) from which ribs (as formed by element 7) extends such that removal of the ribs (as formed from element 7) leaves an open chamber defined by the chamber wall (surface of 102 which defined PA1) a removable ribs (formed by 7) which would leave an open chamber (as defined by wall defining element 2); **[claim 9]** and wherein the ribs (formed

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by 7) could be removed by a milling process. With respect to claim 9, the determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). A product-by-process limitation adds no patentable distinction to the claim, and is unpatentable if the claimed product is the same as a product of the prior art.

Kamen teaches an insert 117 which dampen and direct the application of pneumatic pressure. Bräuer teaches that a perforated plate 7 prevents and overloading of a pumping membrane during adverse operating conditions. Substituting the insert 117 of Kamen for the perforated plate taught by Bräuer would teach a symmetrical gird disposed within a depression forming a pumping chamber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a foam insert provided in curved basin formed a pump chamber, as taught by Kamen, with a perforated plate, as taught by Bräuer, in order to prevent overloading a pumping membrane in adverse operating conditions. In the alternative Liotta teaches that disposing a ribbed insert 9 between an air inlet 10 and a diaphragm or compressing plate 13 was known in the art for pumping blood. The insert of Liotta acts a diffuser plate and as such accomplishes the same function as the insert 117 taught by Kamen for dampening pneumatic pressure. Thus a substitution of a foam insert 117 for a

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perforated layer constituting a plurality of ribs was known in the art at the time of the invention.

A combination of the references teaches all the limitations as discussed but fails to teach the following limitations that are taught by Gray for a pumping assembly or bezel assembly including: **[claims 16]** ribs 138 extending up from the first depression to form an elevated contour, as shown in figure 1; **[claims 16 and 71]** an elevated contour, as defined by element 138, formed by the ribs 138 is a mound that increases in height from a perimeter of a first depression, as defined by element 106 toward a middle of the mound. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pumping assembly or bezel comprising a foam insert disposed within a pumping chamber between a chamber wall and pumping diaphragm, as taught by Kamen, modified so as to substitute the foam insert with a perforated plate as taught by Bräuer, further modified such that the perforations are fashion to form an elevated contour, in order to limit the maximum displacement of a diaphragm (Gray – col. 16 ll. 66—col. 17 ll. 16).

12. The claim groupings (1) 11, (2) 12-13 and 15, (3) 75, and (4) 76-77 rejected under 35 U.S.C. 103(a) as being unpatentable over as being unpatentable over Kamen et al. US 5,628,908 in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901 as evidenced by Liotta US 2004/005421, and further in view of Gray US 6,382,923, as applied to claims 10, 6, 74, and 71, respectively.

A combination of the references teaches all the limitations as discussed and with

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reference to Bräuer: **[claims 13 and 77]** including ribs (as formed by element 7 as discussed about) arranged to provide a plurality of air passages, as shown by the hole in element 7 in figure 1; **[claim 15]** and ribs (as formed by element 7) are parallel to a perimeter of the first depression (as from by surface opposite element 7 defining element 2). A combination of the references teaches the limitations as discussed except for **[claims 11, 12, 75, and 76]** wherein each of the first and second depressions include two of the cavities therein. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a second cavity in first and second depression in order to deliver pneumatic pressure to a membrane such as element 124 as taught by Kamen, since such a modification would amount to a mere duplication of parts. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

13. Claims 21-25, 31-38, 43-48, and 78-81 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamen et al. US 5,628,908 in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901 as evidenced by Liotta US 2004/005421, and further in view of Gray US 6,382,923. Kamen teaches all the limitations as claimed for a bezel or an assembly for delivering pneumatic pressure (76), as shown in figure 13, including: **[claim 21, 36, 49, and 78]** a rigid block 102 having a plurality of ports (ports connected 196 as shown in figure 14A) integrally molded on a port side (fig. 14A) of the rigid block 102, each port

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(ports connected to 196) providing a solvent bondable tubing connection to the bezel 76, and a plurality of cavities 120 on a pumping side (fig. 13) of the rigid block 102, each cavity in fluid communication through the rigid block 102 with one of the ports (ports connected to 196) for delivering pneumatic air pressure directly to the port (ports connected to 196) through the solvent bondable tubing connection (connection with 196 shown in figure 14A), wherein the plurality of cavities 120 are accessible from the port side (fig. 14A) of the rigid block 102, a first depression (PA1) in the pumping side (fig. 13) of the rigid block 102, the first depression (PA1) having at least one of the cavities 120 therein an insert 117 extending up from the first depression (PA1) to form an elevated surface (surface of element 117 facing same direction as element 102 as shown in figure 13) above the pumping side (fig. 13) of the rigid block 102, the insert 117 allowing pneumatic pressure applied through the at least one cavity 120 in the first depression (PA1) to be applied over the elevated surface (surface of element 117 facing same direction as element 102 as shown in figure 13), wherein the insert 117 is removable **(as claimed in claim 36); [claims 23 and 80]** a first depression (PA1) includes a chamber wall (surface of 102 that defines PA1) from which an insert 117 extends such that removal of the insert 117 leaves an open chamber defined by the chamber wall (surface of 102 which defined PA1); **[claims 25, 38, and 81]** an open chamber formed by a second depression (PA2) in the pumping side of the rigid block 102; **[claims 32 and 45]** wherein the ports (ports connected to element 196) are hollow tubular structures integral with the rigid block 102 and extending out from the port side (fig. 14A) of the block 102;

[claims 33 and 46] wherein the port side (fig. 14A) is opposite the pumping side (fig. 13); **[claims 34 and 47]** and wherein the ports (ports connected 196) have inner diameters larger in size than the cavity 120 in fluid communication therewith; **[claims 35 and 48]** and wherein each port (ports connected to 196) provides a solvent bondable tubing connection to the bezel 76, as shown in figure 14A.

Kamen also teaches an insert 117 disposed between a block 102 and a gasket 124 forming a diaphragm, and as shown in figure 12. Kamen fails to teach the following limitations that are taught by Bräuer for a pumping assembly including a diaphragm 4 separated from a pressure source 2 by and insert including ribs 7, corresponding to the location where insert 117 of Bräuer is located. Therefore Bräuer teaches all the limitations for an assembly for use in delivery of pneumatic pressure including: **[claims 21, 36, and 78]** ribs, as formed by intermediate cross-sections of the body formed by element 7 between the channels shown in figure 1, extending up from a first depression, surface opposite element 7 defining element 2, to form a surface (surface of 7 facing element 4) above the pumping side of a rigid block, block accommodating element 1, the ribs (as formed by 7 as discussed above) allowing pneumatic pressure applied through the at least one cavity (bore formed around element 1) in the block accommodating element 1 in which the bore is formed, in the first depression, (surface opposite element 7 defining element 2) to be applied over the surface (surface of element 7 facing element 4); **[claims 22, 37, and 79]** ribs (formed by 7) form a symmetrical grid of air passages; **[claims 23 and 80]** a first

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depression (surface opposite element 7 defining space of element 2) includes a chamber wall (actual surface opposite element 7) from which ribs (as formed by element 7) extends such that removal of the ribs (as formed from element 7) leaves an open chamber defined by the chamber wall (surface of 102 which defined PA1) as removal of the removable ribs (formed by 7) would leave an open chamber (as defined by wall defining element 2); **[claims 24 and 52]** and wherein the ribs (formed by 7) could be removed by a milling process. With respect to claims 24 and 52 the determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985).A product-by-process limitation adds no patentable distinction to the claim, and is unpatentable if the claimed product is the same as a product of the prior art.

Kamen teaches an insert 117 which dampen and direct the application of pneumatic pressure. Bräuer teaches that a perforated plate 7 prevents and overloading of a pumping membrane during adverse operating conditions. Substituting the insert 117 of Kamen for the perforated plate taught by Bräuer would teach a symmetrical gird disposed within a depression forming a pumping chamber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a foam insert provided in curved basin formed a pump chamber, as taught by Kamen, with a perforated plate, as taught

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by Bräuer, in order to prevent overloading a pumping membrane in adverse operating conditions. In the alternative Liotta teaches that disposing a ribbed insert 9 between an air inlet 10 and a diaphragm or compressing plate 13 was known in the art for pumping blood. The insert of Liotta acts a diffuser plate and as such accomplishes the same function as the insert 117 taught by Kamen for dampening pneumatic pressure. Thus a substitution of a foam insert 117 for a perforated layer constituting a plurality of ribs was known in the art at the time of the invention.

A combination of the references teaches all the limitations as discussed but fails to teach the following limitations that are taught by Gray for a pumping assembly or bezel assembly including: **[claims 21, 36, and 78]** ribs 138 extending up from the first depression to form an elevated contour, as shown in figure 1; **[claim 31 and 44]** an elevated contour, as defined by element 138, formed by the ribs 138 is a mound that increases in height from a perimeter of a first depression, as defined by element 106 toward a middle of the mound. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pumping assembly or bezel comprising a foam insert disposed within a pumping chamber between a chamber wall and pumping diaphragm, as taught by Kamen, modified so as to substitute the foam insert with a perforated plate as taught by Bräuer, further modified such that the perforations are fashion to form an elevated contour, in order to limit the maximum displacement of a diaphragm (Gray – col. 16 ll. 66—col. 17 ll. 16).

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14. The claim groupings including (1) 26, (2) 27, 28, and 30, (3) 39, (4) 40, 41, (5) 82, (6) 83 and 84, are rejected under 35 U.S.C. 103(a) as being unpatentable over as being unpatentable over Kamen et al. US 5,628,908 in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901 as evidenced by Liotta US 2004/005421, and further in view of Gray US 6,382,923, as applied to claims 25, 21, 38, 36, 81, and 78 respectively. A combination of the references teaches all the limitations as discussed and with reference to Bräuer: **[claims 28, 41, and 84]** including ribs (as formed by element 7 as discussed about) arranged to provide a plurality of air passages, as shown by the hole in element 7 in figure 1; **[claims 29 and 43]** and ribs (as formed by element 7) are parallel to a perimeter of the first depression (as from by surface opposite element 7 defining element 2). A combination of the references teaches the limitations as discussed except for **[claims 26, 27, 39, 40, 82, and 83]** wherein each of the first and second depressions include two of the cavities therein. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a second cavity in first and second depression in order to deliver pneumatic pressure to a membrane such as element 124 as taught by Kamen, since such a modification would amount to a mere duplication of parts. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.
15. Claims 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kamen et al. US 5,628,908 in view of Bräuer US 5,088,901, or in the alternative

in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901 as evidenced by Liotta US 2004/005421, and further in view of Gray US 6,382,923. Kamen teaches all the limitations as claimed for a bezel or an assembly for delivering pneumatic pressure (76), as shown in figure 13, including: **[claim 49]** a rigid block 102 having a plurality of ports (ports connected 196 as shown in figure 14A) integrally molded on a port side (fig. 14A) of the rigid block 102, each port (ports connected to 196) providing a solvent bondable tubing connection to the bezel 76, and a plurality of cavities 120 on a pumping side (fig. 13) of the rigid block 102, each cavity in fluid communication through the rigid block 102 with one of the ports (ports connected to 196) for delivering pneumatic air pressure directly to the port (ports connected to 196) through the solvent bondable tubing connection (connection with 196 shown in figure 14A), wherein the plurality of cavities 120 are accessible from the port side (fig. 14A) of the rigid block 102, a first depression (PA1) in the pumping side (fig. 13) of the rigid block 102, the first depression (PA1) having at least one of the cavities 120 therein an insert 117 extending up from the first depression (PA1) to form an elevated surface (surface of element 117 facing same direction as element 102 as shown in figure 13) above the pumping side (fig. 13) of the rigid block 102, the insert 117 allowing pneumatic pressure applied through the at least one cavity 120 in the first depression (PA1) to be applied over the elevated surface (surface of element 117 facing same direction as element 102 as shown in figure 13), wherein the insert 117 is removable, and a gasket 124 fitting over the pumping side of the rigid block 102 such that positive pressure applied through the at least

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one cavity 120 in the first depression (PA1) forces a gasket membrane 124 to expand away from the pumping side (fig. 13) and negative pressure applied through the at least one cavity 120 in the first depression (PA1) pulls the gasket membrane 124 against the elevated surface (surface of element 117 facing same direction as element 102 as shown in figure 13) of the insert 117 (col. 13 ll. 60-67); **[claim 51]** a first depression (PA1) includes a chamber wall (surface of 102 that defines PA1) from which an insert 117 extends such that removal of the insert 117 leaves an open chamber defined by the chamber wall (surface of 102 which defined PA1); **[claim 53]** an open chamber formed by a second depression (PA2) in the pumping side of the rigid block 102; **[claim 60]** wherein the ports (ports connected to element 196) are each in fluid communication with one of the cavities 120 and accessible from a port side (fig. 14A) of the rigid block 102; **[claim 61]** wherein the ports (ports in connection with 196) are hollow tubular structures integral with the rigid block 102 and extending out from the port side (fig. 14A) of the block 102; **[claim 62]** wherein the port side (fig. 14A) is opposite the pumping side (fig. 13); **[claim 63]** and wherein the ports (ports connected 196) have inner diameters larger in size than the cavity 120 in fluid communication therewith; **[claim 64]** and wherein each port (ports connected to 196) provides a solvent bondable tubing connection to the bezel 76, as shown in figure 14A; **[claim 66]** wherein the insert 117 is inserted into the first depression (PA1).

Kamen also teaches an insert 117 disposed between a block 102 and a gasket 124 forming a diaphragm, and as shown in figure 12. Kamen fails to

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teach the following limitations that are taught by Bräuer for a pumping assembly including a diaphragm 4 separated from a pressure source 2 by and insert including ribs 7, corresponding to the location where insert 117 of Bräuer is located. Therefore Bräuer teaches all the limitations for an assembly for use in delivery of pneumatic pressure including: **[claim 49]** ribs, as formed by intermediate cross-sections of the body formed by element 7 between the channels shown in figure 1, extending up from a first depression, surface opposite element 7 defining element 2, to form a surface (surface of 7 facing element 4) above the pumping side of a rigid block, block accommodating element 1, the ribs (as formed by 7 as discussed above) allowing pneumatic pressure applied through the at least one cavity (bore formed around element 1) in the block accommodating element 1 in which the bore is formed, in the first depression, (surface opposite element 7 defining element 2) to be applied over the surface (surface of element 7 facing element 4); **[claim 50]** ribs (formed by 7) form a symmetrical grid of air passages; **[claims 51]** a first depression (surface opposite element 7 defining space of element 2) includes a chamber wall (actual surface opposite element 7) from which ribs (as formed by element 7) extends such that removal of the ribs (as formed from element 7) leaves an open chamber defined by the chamber wall (surface of 102 which defined PA1) as removal of the removable ribs (formed by 7) would leave an open chamber (as defined by wall defining element 2); **[claim 65]** and wherein the ribs (formed by 7) could be molded into the first depression (surface opposite element 7 defining space of element 2); **[claim 66]** wherein the ribs (formed by 7) are inserted into

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the first depression (surface opposite element 7 defining space of element 2); the first removed by a milling process. With respect to claim 65 the determination of patentability in a product-by-process claim is based on the product itself, even though the claim may be limited and defined by the process. That is, the product in such a claim is unpatentable if it is the same as or obvious from the product of the prior art, even if the prior product was made by a different process. In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985). A product-by-process limitation adds no patentable distinction to the claim, and is unpatentable if the claimed product is the same as a product of the prior art.

Kamen teaches an insert 117 which dampen and direct the application of pneumatic pressure. Bräuer teaches that a perforated plate 7 prevents and overloading of a pumping membrane during adverse operating conditions. Substituting the insert 117 of Kamen for the perforated plate taught by Bräuer would teach a symmetrical gird disposed within a depression forming a pumping chamber. It would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute a foam insert provided in curved basin formed a pump chamber, as taught by Kamen, with a perforated plate, as taught by Bräuer, in order to prevent overloading a pumping membrane in adverse operating conditions. In the alternative Liotta teaches that disposing a ribbed insert 9 between an air inlet 10 and a diaphragm or compressing plate 13 was known in the art for pumping blood. The insert of Liotta acts a diffuser plate and as such accomplishes the same function as the insert 117 taught by Kamen for dampening pneumatic pressure. Thus a substitution of a foam insert 117 for a

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perforated layer constituting a plurality of ribs was known in the art at the time of the invention.

A combination of the references teaches all the limitations as discussed but fails to teach the following limitations that are taught by Gray for a pumping assembly or bezel assembly including **[claim 49]** ribs 138 extending up from the first depression to form an elevated contour, as shown in figure 1; **[claim 59]** an elevated contour, as defined by element 138, formed by the ribs 138 is a mound that increases in height from a perimeter of a first depression, as defined by element 106 toward a middle of the mound. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify a pumping assembly or bezel comprising a foam insert disposed within a pumping chamber between a chamber wall and pumping diaphragm, as taught by Kamen, modified so as to substitute the foam insert with a perforated plate as taught by Bräuer, further modified such that the perforations are fashion to form an elevated contour, in order to limit the maximum displacement of a diaphragm (Gray – col. 16 ll. 66—col. 17 ll. 16).

16. Claims 54-56, and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over as being unpatentable over Kamen et al. US 5,628,908 in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901, or in the alternative in view of Bräuer US 5,088,901 as evidenced by Liotta US 2004/005421, and further in view of Gray US 6,382,923, as applied to claims 53 and 49, respectively. A combination of the references teaches all the limitations as discussed and with reference to Bräuer: **[claims 56]** including ribs (as formed

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by element 7 as discussed about) arranged to provide a plurality of air passages, as shown by the hole in element 7 in figure 1; **[claims 58]** and ribs (as formed by element 7) are parallel to a perimeter of the first depression (as from by surface opposite element 7 defining element 2). A combination of the references teaches the limitations as discussed except for **[claims 54 and 55]** wherein each of the first and second depressions include two of the cavities therein. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a second cavity in first and second depression in order to deliver pneumatic pressure to a membrane such as element 124 as taught by Kamen, since such a modification would amount to a mere duplication of parts. It has been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Allowable Subject Matter

17. Claims 14, 29, 43, and 57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

18. Applicant's arguments with respect to claims 1-66 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LEONARD J. WEINSTEIN whose telephone

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number is (571)272-9961. The examiner can normally be reached on Monday - Thursday 7:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Devon Kramer can be reached on (571) 272-7118. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Devon C Kramer/
Supervisory Patent Examiner, Art
Unit 3746

/Leonard J Weinstein/
Examiner, Art Unit 3746

